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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/638,102	08/11/2000	David C. Schwartz	1512.112	7761
72088 7590 01/30/2008 WISCONSIN ALUMNI RESEARCH FOUNDATION C/O BOYLE FREDRICKSON S.C 840 North Plankinton Avenue Milwaukee, WI 53203			EXAMINER DAVIS, DEBORAH A	
			ART UNIT 1655	PAPER NUMBER
			NOTIFICATION DATE 01/30/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@boylefred.com

# Office Action Summary

Application No.

09/638,102

Applicant(s)

SCHWARTZ, DAVID C.

Examiner

Deborah A. Davis

Art Unit

1655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-5, 7, 9-33, 35, 41 and 43-52 is/are pending in the application.
- 4a) Of the above claim(s) 14-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 5-7, 9-13, 35, 41 and 43-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

Applicants' response to the Office Action mailed on November 12, 2007 has been acknowledged. Currently, claims 2,5-7,9-13, 35 and 43-52 under examination. Claims 14-33 are withdrawn and claims 1, 3-4, 34, 36-40 and 42 are canceled.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 5-7, 9-13, 35, 41 and 43-52 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Stimpson et al (USP#6,037,186) in view of Kambara et al (USP#6,288,220) for reasons of record and are hereby restated below.

The claims are drawn to a semi-custom array and a chemical screening kit comprising at least two different strips of a non-reactive substrate extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, chemically reactive substance exposed on a surface of the strip; and a support frame for receiving and holding the strips for mutual exposure to a material to be screened wherein the strips include isolating bands of a chemically repellant coating between the chemically reactive substances.

The cited reference of Stimpson beneficially teaches two-dimensional arrays formed by cutting bundles or porous rods or spiral wound porous material (i.e. linear

strips) and can be composed of thin lines of compounds (column 3, lines 35-45). The arrays of porous strips were treated with bovine serum albumin (BSA), which is a non-reactive substrate that extends along a longitudinal axis. The array of porous rods consists of a myriad of different zones each of which can have different binding properties (column 14, Example 1). In one embodiment, Stimpson teaches strips supporting linear arrays of different chemically reactive compounds on porous sheet materials. The porous sheet materials contain longitudinally printed lines of different chemically reactive substances (column 3, lines 35-45; column 5, lines 9-39; col. 13, lines 15-34 and columns 15-16 (Example 5); Figure 2). The porous rods or strips can be made into glass or ceramic material (column 12, lines 42-54) and therefore read on glass fibers as claimed. The strips include hydrophobic ink lines (see Figure 2B), which read on isolating bands of chemically repellant coating between the chemically reactive substances. Markings or colors are synthesized with paint on the arrays to distinguish sequences (column 11, lines 18-38). Such markings can be generated by photo-masks (i.e. printing) as claimed (column 7, lines 56-60). The arrays can be held together by bonding or a mechanical device, (i.e. a support frame, see column 10, lines 1-15) and the strips include recessed portions that receive the chemically reactive substances (see Figure 2A). Therefore it would appear that the strips would be transversely spaced in parallel along two perpendicular axes.

The cited reference of Stimpson does not teach assembling the different linear arrays into larger arrays as instantly claimed.

However, the cited reference of Kambara beneficially teaches assembling different linear arrays into large two-dimensional arrays. Kambara teaches linear arrays of beads coated with DNA probes (column 3, lines 45-53). The beads are arrayed linearly in capillary tubes (column 8, lines 15-16). A plurality of capillary tubes can be assembled to create a two-dimensional probe array in which the capillary arrays are different from each other (column 4, lines 10-14; column 12, lines 24-33; column 18, (claim 10)). Kambara teaches that the arrays provide a process that permits easy production of a desired DNA probe array with a high density and entails a low production cost (column 1, lines 47-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the array of Stimpson who produced different linear arrays held together in a bonding or mechanical device (i.e. support frame) and assemble them into larger different linear arrays taught by Kambara based on the beneficial teachings of Kambara which permits easy production of a desired DNA probe array with a high density and entails a low production cost. One would have been motivated to assemble the larger arrays to cut production costs.

***Response to Arguments***

Applicant's arguments filed November 12, 2007 have been fully considered but they are not persuasive.

**Claim 35**

Applicant argues that the reference of Simpson at no point suggests a chemically screening array having filaments, but only describes filaments as a raw material used to produce spots and fail to teach a chemical screening array having filaments or strips of any type. This argument has been fully considered but not found to be persuasive.

In response, the reference of Stimpson teaches a two-dimensional arrays formed by cutting bundles, porous rods or glass fibers, which read on filaments. The filaments can be composed of thin lines of compounds.

Applicant argues that the references of Stimpson and Kambura in combination fail to teach or suggest every element of the claims.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, in response, applicant argues teachings in Kambura that was relied upon by the reference of Stimpson. For example, applicant argues that Kambura does not teach filaments but

pre-treated particles inside of rigid tubes. The reference of Stimpson was relied on for the teaching of filaments with thin lines of compounds in a linear array. Further, the reference of Kambura was only relied on for its teaching of assembling different linear arrays into larger two-dimensional arrays. Thus, the concept of producing larger arrays of Kambura can be extrapolated into the teaching of Stimpson. The examiner is not combining the teaching of Stimpson and Kambura but modifying. The arrays as instantly claimed are conventional in the art.

Claim 41

Applicant argues that the reference of Kambura provides no apparent advantage in combining it with Stimpson for the purpose of producing larger arrays because the method of Kambura (I think applicant means Stimpson) can be scaled to an arbitrarily large size without fundamental modification. Applicant further argues that Stimpson teaches away from the creation of a large library of strips that will not be used in a given array, and customizing the arrays of Stimpson would defeat the intent of mass production. These arguments has been fully considered but not found to be persuasive.

In response, Stimpson teaches that the method is suited for the mass production of arrays (see abstract) therefore, the reference of Stimpson suggests that the arrays can be modified into larger arrays as taught by Kambura. For reasons of record and response to the arguments set forth above, Stimpson in view of Kambura still read on the instant claims.

With respect to the amended claims, they are more clearly defined but the reference of Stimpson in view of Kambura still meet the new limitations.

### ***Conclusion***

No claims are allowed.

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah A. Davis whose telephone number is (571) 272-0818. The examiner can normally be reached on 8-5 Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terry McKelvey can be reached on (571) 272-0775. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Deborah A. Davis  
Patent Examiner  
Art Unit 1655  
January 2008



TERRY MCKELVEY, PH.D.  
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